

COVID-19 Evidence Digest 4/7/21

Mortality and Readmission Rates Among Patients With COVID-19 After Discharge From Acute Care Setting With Supplemental Oxygen (JAMA Network Open)

Bottom Line: In this study of patients with COVID-19 discharged from emergency departments and inpatient admissions with supplemental home oxygen, the all-cause mortality rate and all-cause 30-day return hospital admission rate were 1.3% and 8.5%, respectively; no patients died in outpatient settings or while returning to an acute care setting.

Details: This study looked at outcomes among patients with COVID-19 pneumonia discharged from emergency departments and inpatient admissions with supplemental home oxygen. 621 adults discharged from 2 large public hospitals in Los Angeles County from 3/20/20-8/19/20 were included. These patients were stable and receiving at least 3 liters per minute of oxygen, and, using the expected practice approach, received home oxygen equipment, educational materials, and telephone follow-up upon discharge. The median age of patients was 51 years, and a majority of patients were Spanish-speaking (84%) and discharged from inpatient admissions (76%). Among these patients, the all-cause mortality rate and all-cause 30-day return hospital admission rate were 1.3% and 8.5%, respectively. The median length of follow-up was 26 days, and no patients died in outpatient settings or while returning to an acute care setting.

Key Takeaways:

- Patients with COVID-19 pneumonia sent home with supplemental oxygen using the expected practice approach had low mortality and return admission to a hospital within 30 days of discharge, supporting the safety of a carefully implemented home oxygen program for these patients.

Post-Covid Syndrome in Individuals Admitted to Hospital with Covid-19: Retrospective Cohort Study

Bottom Line: In this large cohort study of individuals discharged from English hospitals after acute COVID-19, rates of mortality, hospital readmission, and multiorgan dysfunction were higher than matched controls from the general population.

Details: This study looked at outcomes among individuals discharged from English hospitals after acute COVID-19 compared to matched controls from the general population to estimate excess morbidity following severe COVID-19. 47,780 hospitalized individuals with a primary diagnosis of COVID-19 from 1/1/20-8/31/20 who were discharged by 8/31/20 were matched on personal and clinical characteristics to controls from the general population of England who were not hospitalized for COVID-19. Over an average of 140 days of follow-up, 29% of those discharged from the hospital following severe COVID-19 were readmitted (n=14,060) and 12% died (n=5875), which was 3.5 and 7.7 times greater, respectively, than the control group. Respiratory disease was diagnosed in 30% of hospitalized COVID-19 patients after discharge, with 43% representing new onset diagnoses. Rates of respiratory disease, cardiovascular disease, and diabetes were higher in patients with COVID-19 vs matched controls (770, 126, and 127 diagnoses per 1000 person years, respectively). While rates of death, readmission, and multiorgan dysfunction following hospital discharge were greater in hospitalized patients with COVID-19 \geq 70 vs

COVID-19 Evidence Digest 4/7/21

those <70 years of age, rate ratios comparing hospitalized patients with COVID-19 and matched controls were greater for those <70 years of age compared to ≥70. For death, rate ratios were 14.1 vs 7.7 for individuals <70 vs ≥70, respectively, and for respiratory disease, rate ratios were 10.5 vs 4.6 for individuals <70 vs ≥70, respectively. Rate ratio differences by race/ethnicity were also observed, and were greatest for respiratory disease (11.4 vs 5.2 for non-White vs White individuals, respectively).

Key Takeaways:

- The relative increase in risk for multiorgan dysfunction was higher in individuals <70 years of age and non-White patients compared to those 70 and older and White patients.
- Findings suggest that post-covid syndrome morbidity is substantial, affecting multiple organs/systems, thus requiring an integrated diagnostic, treatment, and prevention approach.

Willingness to Receive a COVID-19 Vaccination Among Incarcerated or Detained Persons in Correctional and Detention Facilities — Four States, September–December 2020

Bottom Line: In this study, 45% of incarcerated or detained participants surveyed before COVID-19 vaccines received emergency use authorization (EUA) were willing to be vaccinated; interest in vaccination was lower among younger participants, those who identified as Black/African American, and those who lived in jails vs prisons.

Details: This study sought to assess attitudes toward COVID-19 vaccination among a sample of incarcerated or detained persons in 3 prisons and 13 jails in 4 states. Interviews were conducted from 9/22-12/12, with the majority completed in late November to mid-December. Participation was voluntary, with a response rate of 64%. Of 5,110 participants, 45% (n=2,294) indicated that they would be willing to receive a COVID-19 vaccine; 10% (n=498) and 45% (n=2,318) said they would be hesitant to receive and refuse a COVID-19 vaccine, respectively. Being hesitant to receive a vaccine was higher among women (15% vs 9%). Willingness to receive a vaccine increased with age (39% to 62% among 18-29 vs 60-83 year olds), was lowest among Black/African American participants (37% vs 53% and 48% among Hispanic/Latino and American Indian/Alaska Native participants, respectively), and was higher among those in prisons vs jails (51% vs 44%). Of the 55% of participants who were hesitant to receive or would not be willing to be vaccinated, 81% provided a main reason; 55% of those who were hesitant said they wanted more information or to see others vaccinated first, and 31% had safety or efficacy concerns. Of those would refuse a vaccine, 20% cited distrust in governmental, health care, or correctional staff or institutions, 20% had safety or efficacy concerns, and 19% did not see themselves at risk for COVID-19 or thought vaccination was not needed. Among the 20% who reported distrust as a reason to not get a COVID-19 vaccine, 14% were against vaccination in general and 6% believed COVID-19 vaccines were intended to harm them.

Key Takeaways:

- Compared to surveys of the general population over the same time period, willingness to receive a COVID-19 vaccine was lower among incarcerated or detained persons in this study.

COVID-19 Evidence Digest 4/7/21

- The most common reasons for being less willing to receive a COVID-19 vaccine among incarcerated or detained persons were waiting for more information and safety or efficacy concerns. Non-interest in vaccine was most commonly due to distrust in health care, correctional, or government staff or institutions. Given that the study was done prior to EUA, it is important to note that willingness to be vaccinated may have changed since the study was conducted.
- Strategies to strengthen confidence in vaccines and trust in institutions that deliver them are needed in order to increase interest in vaccines among incarcerated or detained individuals, who are at increased risk for SARS-CoV-2 infection. These may include: access to culturally relevant COVID-19 vaccination information that is appropriate for all health literacy levels and available in multiple formats and languages, opportunities to learn about others' positive vaccination experiences, interventions to increase COVID-19 risk perception, and sustained work to address systemic distrust.

Efficient Maternofetal Transplacental Transfer of Anti-SARS-CoV-2 Spike Antibodies after Antenatal SARS-CoV-2 BNT162b2 mRNA Vaccination

Bottom Line: Findings from this small study support the efficient transfer of antibodies from mothers receiving Pfizer BioNTech's vaccine during pregnancy to their babies, and a positive correlation between maternal and cord blood antibody concentrations.

Details: This study investigated antibody responses in mothers and their infants following maternal vaccination against SARS-CoV-2 with the Pfizer-BioNTech vaccine. 20 pregnant people who received at two vaccine doses in their third trimester and admitted for delivery were included; after delivery, maternal and cord blood were collected to measure antibody responses (anti S- and anti-receptor binding domain (RBD)-specific immunoglobulin G and immunoglobulin M). The median time between the first and second vaccine dose and delivery was 33 and 11 days, respectively. All 20 pairs of mothers and infants were positive for anti S- and anti-RBD specific IgG; IgM antibodies were only detected in 30% of mothers and no infants. Median placental transfer ratios of anti-S and anti-RBD specific IgG were 0.44 and 0.34, respectively, which are lower than those reported for vaccine-elicited antibodies to other viruses. IgG levels in mothers were positively correlated with those of their infants, with IgG levels in cord blood correlated with increasing time since the first vaccine dose.

Key Takeaways:

- Placental transfer ratios of IgG antibodies against SARS-CoV-2 were lower compared to vaccine-elicited antibodies to other viruses (e.g., influenza, measles). More research is needed to understand why.
- In addition to studies to assess the safety and efficacy of SARS-CoV-2 vaccines for pregnant people, further study is needed to determine optimal timing for maternal vaccination, the durability of neonatal antibodies derived from maternal vaccination, and the role of breastfeeding in maintaining neonatal immunity.